

# ----- LIST ADT USING ARRAY -----

class ArrayList:

def \_\_init\_\_(self):

self.data = []

def insert(self, value):

self.data.append(value)

def remove(self, value):

if value in self.data:

self.data.remove(value)

def display(self):

print("Array List:", self.data)

# ----- LIST ADT USING LINKED LIST -----

class Node:

def \_\_init\_\_(self, value):

self.data = value

self.next = None

class LinkedList:

def \_\_init\_\_(self):

self.head = None

def insert(self, value):

new\_node = Node(value)

if self.head is None:

self.head = new\_node

else:

temp = self.head

while temp.next:

temp = temp.next

temp.next = new\_node

def remove(self, value):

temp = self.head

if temp and temp.data == value:

self.head = temp.next

return

prev = None

while temp and temp.data != value:

prev = temp

temp = temp.next

```
if temp is None:  
    return
```

```
prev.next = temp.next
```

```
def display(self):  
    temp = self.head  
    print("Linked List:", end=" ")  
    while temp:  
        print(temp.data, end=" -> ")  
        temp = temp.next  
    print("None")
```

```
# ----- MAIN PROGRAM -----
```

```
# Array List
```

```
arr = ArrayList()
```

```
arr.insert(10)
```

```
arr.insert(20)
```

```
arr.insert(30)
```

```
arr.display()
```

```
arr.remove(20)
```

```
arr.display()
```

```
print()
```

```
# Linked List
```

```
ll = LinkedList()
```

```
ll.insert(10)
```

```
ll.insert(20)
```

```
ll.insert(30)
```

```
ll.display()
```

```
ll.remove(20)
```

```
ll.display()
```

Output:

Array List: [10, 20, 30]

Array List: [10, 30]

Linked List: 10 -> 20 -> 30 -> None

Linked List: 10 -> 30 -> None